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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/446,523	12/28/1999	Gerd Altmeyer	39252	2447

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EXAMINER
OCAMPO, MARIANNE S

ART UNIT	PAPER NUMBER
1723	19

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/446,523	ALTMEYER ET AL.	
	Examiner	Art Unit	
	Marianne S. Ocampo	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9-9-02* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 December 1999* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8-9-02 has been entered.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the direction of the cleaned out fluid exiting through the outlet opening in Fig. 1, as described in the specification, page 9 lines 1 - 3. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claims 10 – 13 are objected to because of the following informalities:

a). In claim 10, in the last line, the phrase "filter mat" should be changed to "mat filter" for consistency and avoid confusion. The same name should be used for the same structure throughout the claims and the specification.

b). In claims 11 – 13, the phrase " to form said sealing seam", should be added at the end of each statement, to better clarify and provide completion (connection between independent and dependent claims) since the ends of the casing are joined to form this sealing seam.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 10 – 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a). Previously it was indicated that claim 10 recited indefinite language with the phrase " forming an interference fit therebetween". In reply, the applicant's representative has argued

that claim 10 is indeed definite and complies with 35 USC 112, second paragraph. Further, he argued that the "interference fit" which is a connection between two parts in which the inserted part (the filter) is larger than and is forced within a receiving part (the casing). He adds that the interference fit is between the mat filter and the filter casing. However, this is not true. The inserted portion (the filter) cannot form the interference fit with the casing, but the interference fit would be the result of the inserted portion (the filter) being squeezed or inserted between two parts (other than the mat filter), and one of them has been considered to be the filter casing. The examiner is unclear if there are other structural limitations or elements additionally claimed which would place the mat filter between the casing and another part. Could this other part be the supporting pipe, or a support layer or another filter layer on the opposite side of the filter opposite the side adjacent the casing?

b). Claim 23 recites the limitation "said sealing seams" in line 2. How many sealing seams are there? There is insufficient antecedent basis for the limitation in the claim. There is only one mentioned in claim 10 and in the original specification.

c). Claims 17 – 20 recite the limitation "**recyclable** plastic material". What plastic materials are considered recyclable? Since there are no equivalents or examples given in the specification to determine what the applicant considered as "recyclable plastic materials", it is unclear if the applicants meant that if a product is formed of a plastic material, therefore it is recyclable, or only certain plastic materials are being considered recyclable. For examination purposes, the examiner considered the broad interpretation and only teaching in the specification

that if a product (i.e. parts of the filter element) is formed of a plastic material, it is considered recyclable.

d). Claims 11 – 16, 21 - 22 and 24 are dependent claims of claim 10, and they also suffer the same defects since they depend therefrom.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 10 – 14 and 17 - 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komarmy (US 3,200,953) in view of Domnick (US 3,460,680).

8. With regards to claim 10, Komarmy discloses a filter element (14) comprising a fluid permeable supporting pipe (18), a resilient mat filter (26) folded into a cylindrical shape and pushed open on the supporting pipe (18) to surround and engage the supporting pipe (18), a filter casing (20) with openings (perforations) enclosing the mat filter (26) and delimiting a filter chamber, the filter casing (20) once formed from a flat blank of metal with opposite ends thereof

bent toward one another and joined together by a sealing seam to form a cylindrical casing (20), the cylindrical shape of the mat filter (26) having an exterior diameter prior to introduction to the casing (20) being larger at one end than an interior diameter of the casing (20) to form an interference fit (outwardly bulging sidewalls at the one end) therebetween, and two end caps (24, 22) connected to the filter casing (20) and one axial end (opposite the one end) of the mat filter being formed into a conical shape (not shown, but in col. 2, lines 53 – 58) to facilitate introduction thereof into the casing (20) and the filter (26) being supported directly on the supporting pipe and the filter casing (20), as in cols. 1 – 2 and figs. 1 – 2. Komarmy fails to disclose the filter casing being plastic. Domnick teaches a similar filter cartridge/element having a fluid permeable supporting pipe (11) and a plastic filter casing (10) with openings enclosing a mat filter (17) and the filter casing being formed from a flat blank/sheet material with opposite ends thereof bent toward one another and joined together by a sealing seam (by welds), as in figs. 1 and 4 and in cols. 2 – 3. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the filter casing (which is metal) of Komarmy to that material (plastic) taught by Domnick, in order to provide an improved filter casing for the filter element, which does not corrode and get damaged easily by exposure to water or corrosive fluids compared to its metallic counterparts, and therefore may be reusable and cleanable (i.e. recyclable) for future use.

9. Regarding claims 11 – 13, these claims are also considered product by process claims. Here, the claimed invention, particularly that of the filter casing has its ends thereof joined by

heat sealing according to claim 11, alternatively by using a heating element as in claim 12, or by an ultrasonic weld as in claim 13. Domnick further teaches the ends of the filter casing (10), particular when it is formed of a plastic material, are joined by (ultrasonic) welding (claim 13) or any suitable securing means (which could be other alternative sealing methods such as fusion welding or heat sealing or using a heating element to melt the ends together and fusing them together). Here, the examiner has considered the same filter element if not an obvious modification of the claimed invention is taught by the prior art, no matter how the product was made. In other words, the patentability of a product by process claim is based upon the product itself, eventhough the claim is limited and defined by process (i.e. process of sealing the ends of the filter casing) and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. *See **In re Thorpe**, et al., No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966.*

10. Concerning claim 14, Komarmy also discloses the mat filter (26) being pleated and comprises an additional filter fold (at 28) with a flush arrangement of mat filter edges (ends) on one another allowing the mat filter edges to be tightly joined, as in fig. 2 and in col. 2, lines 10 – 13. Komarmy fails to disclose the mat filter comprising plastic material. Domnick teaches the filter element having a mat filter (17, which is wound to form a cylinder but capable of pleating) formed of fiberglass/glass fiber material, which is an example of a plastic material, as in col. 3, lines 53 - 54. (See Hawley's Condensed Chemical Dictionary for teaching that fiber glass or glass fiber materials are considered (reinforced) plastic materials, pages 498 and 961).

11. With regards to claim 17, Komarmy, as modified by Domnick has already taught that the filter casing (10) being formed of a plastic material. Since it is not clear what the applicant considered "recyclable", and it has been defined by the examiner that as long as the material is plastic, it is also considered recyclable. Therefore, the filter casing (10) of the prior art (Komarmy as modified by Domnick) teach consisting recyclable plastic material, as in col. 3 of Domnick.

12. Regarding claim 18, Domnick also teaches the end caps (12, 13) consisting of a plastic material (being the same material as the sealant which is formed by epoxy resin and silicone rubber), as in col. 3, lines 5 – 11. Silicone rubber (i.e. silicones) and other elastomers are considered plastic materials, according to Hawley's Condensed Chemical Dictionary, page 888. Since it is not clear what the applicant considered "recyclable", and it has been defined by the examiner that as long as the material is plastic, it is also considered recyclable. Therefore, the end caps of the prior art (resulting from the combination of Komarmy and Domnick) consist recyclable plastic material, as in col. 3 of Domnick. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the end caps (which is metal) of Komarmy to that material (plastic) taught by Domnick, in order to provide improved end caps for the filter element, which does not corrode and get damaged easily by exposure to water or corrosive fluids compared to its metallic counterparts, and therefore may be reusable and cleanable (i.e. recyclable) for future use.

13. With respect to claims 19 and 20, Domnick also teaches the supporting pipe (11) also formed of the same material as the filter casing (10) being formed of plastic material, as in cols. 2 – 3. Since it is not clear what the applicant considered "recyclable", and it has been defined by the examiner that as long as the material is plastic, it is also considered recyclable. Therefore, the supporting pipe of the prior art (resulting from the combination of Komarmy and Domnick) consist recyclable plastic material, as in cols. 2 - 3 of Domnick. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the material of construction of the supporting pipe (which is metal) of Komarmy to that material (plastic) taught by Domnick, in order to provide improved supporting pipe for the filter element, which does not corrode and get damaged easily by exposure to water or corrosive fluids compared to its metallic counterparts, and therefore may be reusable and cleanable (i.e. recyclable) for future use.

14. Regarding claim 21, Komarmy, as modified by Domnick, have taught there are openings (holes) in the plastic filter casing, as in fig. 1 of the prior art. Although Komarmy, as modified by Domnick, do not disclose how the openings/holes were formed, it is considered obvious that the product of the prior art (Komarmy as modified by Domnick) is the same, or at least an obvious modification of the claimed invention. This claim is also a product by process claim. Here, the examiner has considered the same filter element if not an obvious modification of the claimed invention is taught by the prior art, no matter how the product was made. In other words, the patentability of a product by process claim is based upon the product itself,

eventhough the claim is limited and defined by process (i.e. process of forming the openings of the filter casing which is by punching out devices) and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. *See **In re Thorpe**, et al., No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966.*

15. With respect to claim 22, Komarmy further discloses the openings in the filter casing (20) being circular, as in fig. 1.

16. Claims 15 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komarmy and Domnick as applied to claim 14 above, and further in view of Pall (US 3,867,294).

17. With regards to claims 15 – 16, they are considered product by process claims. Komarmy discloses the mat filter edges being joined in a sealed relationship (28), but fails to disclose what type of seal/weld was used to perform this sealing relationship. It is well known in the art of fluid filtration, particularly in forming and joining ends of a (pleated) mat filter, by any means suitable including those of heat sealing and ultrasonic welding. Pall teaches using a heat sealing method, in which a tape of adhesive (16) is heated and melted to seal the edges of a mat filter (14, 13), as in figs. 1 – 2 and cols. 3 – 4. Here, the examiner has considered the same filter element if not an obvious modification of the claimed invention is taught by the prior art, no

matter how the product (a mat filter with its mat filter edges being joined by heat sealing or ultrasonic welding) was made. In other words, the patentability of a product by process claim is based upon the product itself, eventhough the claim is limited and defined by process (i.e. process of sealing the ends of the filter casing) and therefore, the product in such a claim is unpatentable if it is the same as, or obvious from the product of the prior art, even if the product of the prior art had been made by a different process. *See **In re Thorpe**, et al., No. 85-1913 (11-21-85) 227 USPQ pages 964 – 966.*

18. Claims 23 - 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komarmy and Domnick as applied to claim 10 above, and further in view of Yotsumoto (US 3,560,131).

19. Concerning claim 23, Komarmy, as modified by Domnick, fail to teach the sealing seam comprising intermittent contact points of the ends of the filter casing. Yotsumoto teaches a filter element, similar to that of Komarmy and Domnick, having a fluid permeable supporting pipe (5), a pleated filter (4) surrounding the pipe (5) and a filter casing whose ends are joined by a sealing seam (7), in which the sealing seam (7) comprises intermittent contact points of the ends of the filter casing, as in figs. 1 – 2. It is considered obvious to one of ordinary skill in the art at the time of the invention to modify the sealing seam of the filter element of Komarmy, as modified by Domnick, by adding the embodiment taught by Yotsumoto, in order to provide an

alternative design for a sealing seal which provides an effective (leak proof) and more stable (stronger) seal between the ends of the filter casing.

20. With respect to claim 24, Yotsumoto further teaches the sealing seam (7) comprising overlapping area of the ends of the filter casing (1), as in figs. 1 – 2. The same motivation applied in previous paragraph 13 applies here.

Response to Amendments and Arguments

21. Applicant's arguments with respect to claims 10 – 24 have been considered but are moot in view of the new grounds of rejection. In response to applicant's remarks filed on 9-9-02 regarding the 112 rejection mentioned in the Advisory Action, the recitation of "forming an interference fit therebetween" was considered indefinite for the reason already mentioned in paragraph 5, section a above. In order for the mat filter and the filter casing to have an interference fit therebetween, there must be at least another structural element on an opposite side of one side of the mat filter that is adjacent to the filter casing. Since it is not quite clear if there is another structural element in the opposite side of the mat filter, it is not clear how this interference fit is achieved. New prior art has come to light after an update search of the prior art, in particular, Komarmy (US 3,200,953), and in combination with other previously applied

art, Domnick (680) and Yotsumoto (131), the obviousness rejections based on these prior art have been presented above.

22. **This action is non-final.**

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marianne S. Ocampo whose telephone number is (703) 305-1039. The examiner can normally be reached on Mondays to Fridays from 8:00 A.M. to 4:30 P.M..

24. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

25. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

M.S.O.
November 16, 2002

W. L. WALKER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700